THE VALUATION OF BEACHES AS URBAN OPEN SPACE

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ABSTRACT

The beach is a unique open space in the urban context. It is a dynamic aggressive environment that has in the past been ignored as an open space that has special qualities. While it has been seen purely as a recreational facility, ecosystem services and intrinsic values have been ignored. In Cape Town planning guidelines now set store on the value of open space, however the fear is that there may be insufficient emphasis on the beach as an urban edge and an open space element. While ecosystem service can and have been calculated intrinsic values present some difficulties.

Two examples of beaches which vary in socio-economic backgrounds are taken to illustrate how valuation techniques to obtain intrinsic values may fare. In situations where there are dramatic socio-economic and cultural differences the calculation of value is difficult. A number of valuation techniques may be used to arrive at an intrinsic value. Revealed preference techniques fall short because they do not take into account differing mobility's of the population. Expressed preference techniques elicit opinions but may also fail because of socio-economic and cultural differences. It appears that it is difficult to reduce intrinsic value to monetary terms and that it is perhaps better to rely upon arriving at a consensus as to the worth of the beach as open space.

KEY WORDS

Open space, beach, intrinsic value

Introduction

The South African City of Cape Town lies at the southern tip of the African Continent. A dominant feature of the city is the internationally known Table

Mountain which lies in the south west corner of the city. A significant proportion of the perimeter of the city - approximately 30% - is bounded by the coast. This particular open space element therefore plays an important role in the cityscape.

The beach is in some ways a unique natural phenomenon in the context of urban open space. With the exception of heavy civil engineering constructions such as harbours or land reclamation schemes the immediate beach is rarely threatened by development, and while there are examples of consumptive uses, such as diamond and heavy mineral mining, these rarely occur in the urban context. It could be said that since mankind discovered ways to fish from the surface of the sea rather than having to rely on casting nets from the shore the principal "use" of the beach has been confined to recreation.

Beaches are dynamic systems where erosion and deposition occurs depending upon currents, prevailing winds, and seasonal variations. This is an aggressive environment that is not a natural site for development. When structures (such as groynes) are constructed on beaches to control natural processes sedimentation rates are altered leading to the need for further anthroprogenic interference (Norsstrom, 1987).

The beach has by and large not in the past been included in the planning of urban open spaces. This may in part be due to the fact that the intrinsic value of the beach as an open space has not been recognised. It has been regarded as being an urban edge with civil engineering constraints rather than an edge that provides ecological services, and also has aesthetic and intrinsic values. The recreational value has perhaps been taken for granted, being regarded as a gift of nature that does not require planning or protection. As a consequence urban coastal development is in danger of continuing unabated and uncontrolled in the environs of the beaches because of lack of acknowledgement of such values and services.

The contention is that while the view persists that the coast in general, and the beach in particular is somehow immutable then there is likely to be a reduction in the value assigned to it and therefore will not figure with the prominence it deserves in the planning process. The objective of this paper is to suggest that urban beaches should be brought into the definition of public open space. To strengthen this inclusion

intrinsic values as well as ecological resource values of urban beaches should be calculated in that context.

The paper defines open space in the context of a beach and the functions it performs. Current planning guidelines being used by the City of Cape Town in this regard are investigated. In order to investigate the equality of open space valuation two beaches that exhibit markedly different urban attributes are taken and methods of arriving at intrinsic values tested.

Open Space Defined

Open space can range from entirely unmodified space without any form of human intervention, to spaces within the highly modified urban fabric. At both ends of the scale there are tensions. In the former case mountains, deserts, and coastlines can be unmodified and "wild". But the "wilderness" cache presents the conundrum of how to allow people to experience the pleasure of the wilderness and solitude without overcrowding it with those seeking just that, and thereby reducing its appeal (or value) by overtraffiking it.

In the urban context open space may be made up of formal parks, wastelands, or gardens. Squares within the city, whether they be paved or planted, represent a relief from buildings. Open space can also be the spaces that define, albeit sometimes indistinctly, the city edges. In this case they may be an uncertain mix of ribbon development, small holdings, "secure" housing complexes, or informal settlements. Tensions in the urban context arise between conservation and development imperatives.

In the context of the City of Cape Town the Metropolitan Spatial Development Framework (MSDF), a guideline that informs urban planning, sets store on the attributes of public open space.

The MSDF is designed to bring together principles of sustainable management and the creation of quality urban environments. In order to achieve these goals a number

of spatial planning precepts have been adopted. Of particular interest here is the precept that deals with Metropolitan Open Space System (MOSS).

MOSS is defined as:-

> . . a rationalised network of interconnecting open space aimed at:-
>
> - complementing the built fabric by providing the urban environment with variety, character, a sense of visual relief, open space enjoyment, recreation and general amenity, and
> - protecting biodiversity in urban areas and providing animal and plant species with habitats. (MCA Urban and Environmental Planners, 2000 p16)

Aside from direct use value and the provision of ecological goods and services the quality of open space differs considerably depending upon the intrinsic nature of the space and upon the context in which that space lies. An irrigation channel in an otherwise unmodified environment may be perceived to have a negative intrinsic impact upon the environment (notwithstanding any bio-physical attributes that it may have). A similar construction, such as a canalised river, in the urban environment will however be viewed favourably. It is at this point that the discussion about intrinsic value commences.

Riley says

> *Landscape* I use in a broad naïve sense as a setting for human experience and activity. In scale it might be described as "larger than a household but smaller than one of the earths biogeographical regions."(Riley, 1992,13)

By applying this style of definition to open space this does allow for virtually any size, shape or form. It is however acceptable to argue that generically "Open Space" within the urban context is any space that serves to relieve the monotony and monolithic nature of built-up areas by presenting a horizontal rather than a vertical vista.

The term "Public Open Space" introduces a further dimension to the concept of open space. Where the greater ecological good may be served by protected wilderness and by private agricultural endeavour, the social good may not necessarily be served. In the lexicon of public open space it is insufficient to merely allow for the existence of

space that is not developed and ignore the issue of access to that space. The greater good is not being served merely because of the very existence of open space. Society also demands the right to utilise open space for recreation and spiritual rejuvenation.

Democracy places equitable rights at the very root of society and governance. That equity includes, among others, the reasonable right of access. Once access is recognised as a right it becomes a potential attribute of open space. The question of value is lifted out of the realm of simple resource value and into those that speak of societal and individual use and recreation, and the welfare of all.

Open Space Functions and the Beach

The MSDF lists a number of generic open space functions. Direct uses such as urban agriculture, woodlots and traditional plant harvesting are noted. Cultural, and active and passive recreational uses are mentioned. The value of flood and water management controls are recognised, however the open space functions provided by the beach are not explicitly noted.

Common Ground Consulting (2000) are explicit and suggest that the intertidal zone provides ecosystem services such as disturbance regulation, nutrient cycling, biological control, habitat/refugia, food production, raw materials. Cultural benefits such as recreation and tourism, private investment, urban/downtown revitalisation, and property prices are identified. These services have been derived from an earlier study that sought to provide global values for ecosystems (Constanza et al,1997).

From an anthropocentric view point the beach has a number of facets. It is a place to be static on. It is a place from whence one can launch a variety of water sports. It is a place along which one can wander. It is a place for spiritual renewal.

The intention is not to enter into a discussion on what constitutes a scientific definition of "the beach". The spatial extent of the beach may be the high water mark, or may be said to extend to the fore-dunes. For the purposes of this paper a beach is that stretch of sand that separates the sea from the land and which provides a number

of services, both ecological and societal. This deliberately loose definition has been adopted in recognition of the subjective nature of open space and to avoid the danger of trying to compartmentalise attributes that do not have a clear scientific or spatial definition.

The value of ecosystem services provided is outside the scope of this paper, as to some extent are the cultural aspects that deal with private investment, urban/downtown revitalisation, and property prices. These latter aspects revolve around economic markets that are driven by supply and demand and can be measured empirically. What is of interest is the less definable function of existence - intrinsic value.

Why Value?

The emphasis of economic value was once on project evaluation where values were assigned to an environment in order that value based judgements could be made about a specific undertaking. The pros and cons (costs and benefits) of a project could be reduced to a monetary base to ascertain its efficacy.

Total Economic Value (TEV) can be expressed as follows:-

TEV = use value + indirect value + option value + existence value

Where "use value" refers to direct uses such as active recreation, "indirect value" refers to ecological functions, "option value" refers to future uses that are either not yet known of or are not at present being exploited, and "existence value" refers to the fact that an area or thing exists without any direct "use" being made of it (Barde and Pierce, 1991).

The concept of Total Economic Value (TEV), which is an aggregate of all values, from the concrete certainties of fiscal costs to less certain option and existence values, grew out of a concern for a visibly degrading environment. These concerns helped to swing attention away from purely profit motivated development to anthropocentric

impacts on the environment and the future concerns for sustainable stewardship of the earth and its assets.

As the concern for the environment as a whole has burgeoned attempts are being made to place a total value on it. One such attempt carried out by Costanza et al (1997) was prefaced as follows:-

> Because ecosystem services are not fully captured in commercial markets or adequately quantified in terms comparable with economic services and manufactured capital they are often given too little weight in policy decisions. This neglect may ultimately compromise the sustainability of humans on the biosphere. (p253)

There is an argument that the application of a monetary value to an environmental resource places that resource in the economic domain and, as such, it can be afforded some protection by being considered in the "rational" way that other resources are. A contrary argument is that once such goods are placed in that domain they may be subject to trade-offs in just the same way as other less delicate non-environmental goods and services. Far from elevating the worth of environmental goods and services by assigning a financial value it is likely to be endangered because a purely economic set of criteria are being applied.

By placing a financial "value" on open space there is a danger of subsuming intrinsic values. By reducing, albeit for noble reasons, environmental attributes to financial terms excludes the possibility of other types of value that could and should be used to assist in the decision making process.

While the beach appears to have a low consumptive resource value in terms of potential commercial endeavours, the environmental services that it provides are huge. The value of these services can be evaluated by a range of methods although the accuracy of such evaluation is open to question (Costanza et al, 1997). In addition to ecological services beaches also provide a range of cultural services, principal among which are recreation. Non-consumptive recreational values can be ascertained in order to plan and manage the resource, but the value attached to open space *per se* is less

certain because this relates to intrinsic and existence values that are not easily measured.

The more arcane realm of existence values is in a way strengthened by the access issue insofar that the knowledge that others may and do visit a place of "worth" adds more value to the socially minded non-user. In the case of the beaches at the urban edge they are a tangible part of the urban fabric and will be recognised as such by city dwellers irrespective of whether they are regular visitors or not.

To place an intrinsic value on the beach is not, in a perverse sort of way to value the beach directly, but is to place a value on the hinterland. An intrinsically high value of the beach should place an additional check on use and development along its edge. Would unpleasant ribbon development along many urban high water marks have been condoned by society if there were a recognised intrinsic value that would be severely prejudiced by this type of development?

Past and Present Planning Responses to the Beach as Open Space in Cape Town

It is the contention of this paper that urban planning in Cape Town has in the past been weak with regard to the beach. The goods and services provided by the beach have not been recognised. While recreational potential has been managed to some extent, the essential intrinsic qualities of the beach as open space has not been acknowledged.

It is a curious fact that past planners and developers have through their actions, or inaction, consigned the urban beach to a two dimensional element more akin to a stage set than to open space. Many beach/urban edges present a wall of buildings that effectively divorce land from sea. A walk along such a beach is one taken between a man made canyon wall on the one side and the open sea on the other. Attention is focused seawards, away from the land. In order to allow to access the beach to enjoy

its amenities planners have encouraged the destruction of some of the elements that make up the beach dynamic. Thus roads and parking lots have been constructed, in some cases at the high water mark. Not only have the services with regard to, for instance, disturbance regulation been lost but the essential open space qualities of the beach have been prejudiced.

The aforementioned MSDF does go some way towards redressing the balance. The policy regarding MOSS states in part:-

> . . . . . .By the linking of open areas in this way to firm *green* chains, the amenity and recreation potential of MOSS is enhanced as is its ecological potential (by the creation of ecological routes). This is especially applicable along waterways, and wetland systems. (Cape Metropolitan Council, 1996, p53) (authors italics)

However the beach is something more than an open space - it is also an edge. As alluded to above perhaps part of the reason for the current state of affairs is that this edge has been taken for granted and the issues surrounding it have therefore been ignored.

The urban edge as part of open space plays an important part in the principals of the MSDF. It is defined as:-

> . . a demarcated line and interrelated policy which serves to manage, direct and control the outer limits of urban expansion within a city or town. (CMC, 1996, p104)

A number of criteria are suggested for its demarcation which include a variety of planning and physical informants. Under the heading of water features the policy states:-

> Areas such as flood plains, wetlands, aquifers, high water table areas, large dams, coastal zones, vleis and river corridors should be excluded from urban development. (CMC, 1996, p59)

The concern here is that while the existence of the urban /beach edge can be brought into urban planning policy there is no explicit recognition of this specific type of edge.

This is to some extent illustrated by a recent separate study embarked upon in the Cape Town Metropolitan Area to determine criteria for the urban edge. This study deals with the Municipal district of Helderberg, an administrative unit that has a significant stretch of coastline (CMC, 2000). Of note in this study is that while it tackles the issues set - that is the protection and control of the urban/rural edge, it is silent on issues surrounding the urban/coastal edge.

A stated intent of MOSS within the MSDF is:-

> MOSS designations should aim to bring opportunities for enjoying the natural environmental closer to lower income groups who presently live furthest away from existing opportunities (MCA Urban and Environmental Planners, 2000,p48) (*sic*)

Previous societal imbalances are clearly to be addressed and access to open space is a recognised need.

It is clear that the current policies recognises *to a degree* that the coast is a functional element of the urban landscape, but through a lack of emphasis on an urban edge that contributes to a significant proportion of the overall municipal boundary of Cape Town, there is a danger of insufficient recognition being given to the unique quality of this open space component.

Two Cases

In order to investigate the valuation of a specific type of open space - the beach within the urban context - two beaches within the Cape Metropolitan Area have been selected. Each beach has a different urban setting but similar biophysical attributes. The beaches represent socio-economic extremes within the Cape Metropolitan urban

coastal environment within a contiguous length of coastline defined by the Northern shores of False Bay.

Strand Beach lies at the eastern end of the Northern False Bay Coast. It is characterised by the dense commercial developments of the town of Strand and, further east, Gordons Bay. It is an area that has grown organically, having during the seventeenth century having been the centre of a modest fishing industry. At the beginning of the Twentieth Century the Cape Explosives factory was built in the vicinity and the area has steadily prospered since (Heap P, 1993). Commercial and residential developments which were funded by private "white" money under the old apartheid system abound at the town of Strand, while Gordons Bay enjoys a more historical setting. The beach is kept in a sanitised condition by the local authority who go so far as to remove kelp washed up on the beach during high seasons.

Strandfontein Beach lies to the west of Strand Beach. This is a planned "recreation node" that was developed during the 1980's for the benefit of the "blacks" in Khayelitsha and "coloureds" in Mitchells Plain, two townships that were constructed in the hinterland. *Strandfontein* is but one of a number of recreation nodes built purely for recreational purposes along an otherwise pristine coastline. A tidal pool has been constructed to allow for safe swimming.

Physically the coastline is fairly consistent, with beaches interspersed with rocky shores. Schoonees and Bartels (1991) using a series of measures of beach safety and comfort record that Strand Beach is suitable for swimming without restriction. Unfortunately their study stops short of Strandfontein, however the lack of lifeguards has been recorded as a shortcoming (Bodenstein, 1999) and the fact that it was deemed necessary to construct a tidal pool does suggest that conditions are less suitable for unrestricted water sports.

It is an odd irony that as a consequence of apartheid planning policies *Strandfontein Beach* is less impacted as open space than *Strand Beach*. Two explanations offer themselves.

Mitchells Plain and Khayelitsha have been divorced from the coast. These vast residential areas in the hinterland are essentially "inward" looking. In addition a significant length of the coastline (some 5km's) was declared a protected area. As a consequence, although the vegetation is not pristine (there is significant alien invasion of wind pruned rooikraans[1]) the essential open space qualities have not been impacted by development.

In stark contrast the traditionally "white" areas have been subjected to a development free-for-all, the worst excesses of which can be observed at the town of Strand where buildings and roads abut the high water mark. Here there are no vestiges of natural vegetation and it may be argued that the quality of the "open space" is severely hampered. High tides result in seawater flowing onto the main coast road. Sand is thrown up against buildings and clogs up the stormwater system (Davey et al, 2001).

Another example is the Strand Pavilion, a multi-storey building that over sails the beach on concrete stilts. The Harbour Island development a little to the East punches into the sea through the construction of a manmade harbour and mole of such artifice that it could not be confused with a natural feature.

The socio-economic profiles of the two areas are markedly different. The Harare ward of Khayelitsha had a per capita monthly income in 1996 of R352. In Gordons Bay the monthly per capita income was R1811 (City of Cape Town, undated). Levels of unemployment in Khayelitsha were recorded as being 40% compared to 5% in Strand. (Davey et al, 2001)

As a potential resource for raw materials the area in question is limited. Van Herwerden and Griffiths (1991) recorded that only 6% of those visiting the coast were engaged in exploitative activities, and those were primarily fishing carried out from the rocky shore rather than beaches. Prochazka and Kruger (1999) record a slightly lower percentage (4%). Bait collection can be observed but this seems to be limited to collection for recreational fishing purposes. There is no evidence of income being derived from bait collection.

[1] *Acacia cyclops*

Beach Seine (trek net fishing) is an activity that is beach based and subject to licensing. There are presently three licences operating along the northern stretches of the False Bay Coast (Lamberth and Clark, in prep). Clark (1999) has identified a number of households in the area who are engaged in subsistence fishing[2]. This activity is both shore and boat based.

There is no reference in the literature about the area of any minerals worthy of extraction. Beach sands are generally single sized, have a high proportion of soft shell particles and tend to be too fine for building purposes. If sand does have to be taken from the beach it should be mined from below the high water mark in order to avoid excessive salt content which is deleterious to concrete and mortar (Addis, 1995). Large scale sand mining is already being carried out in the neighbouring Macassar dunes. Sand mining from these beaches would be a costly enterprise and the likelihood of such an activity being approved on environmental grounds is slim.

The direct use of the economic resources provided by the beach is limited apart from being used as a launching site for seine net fishing. With careful research the economic value of this renewable resource can be calculated. Recreation however is a major use. The beaches are used for recreational purposes, both by visitors from other parts of the country, and by nearby residents.

Intrinsic Value of Open Space

A number of valuation techniques have been developed to assist in the assignment of Total Economic Value. The intention here is to investigate some way towards providing a rational method for arriving at intrinsic values, and by so doing strengthening concern for this open space element.

[2] A natural person who regularly catches fish for personal consumption or for the consumption of his/her dependants including one who engages from time to time in the local sale or barter of excess catch but does not include a person who engages on a substantial scale in the sale of fish on a commercial basis **(Marine Living Resources Act, Act 18 of 1998 – section 1(LV)**

Revealed Preference

Two methods that rely upon revealed preference techniques have been discarded because they do not adequately embrace the differences between Strandfontein and Strand.

One, the hedonic price method (HPM) seeks to associate environmental services with known economic markets, the most common being the property market. The method is highly statistically dependant, a prerequisite being a market that experiences a significant number of transactions over an extended period of time.

The unique aspect of the study area renders HPM open to question. The method is dependent upon a sophisticated property market that operates along classical economic lines where full knowledge and a significant degree of mobility are paramount (Munasinghe, 1994). There is a significant disparity of income and welfare in the communities living within the study area. While choice and mobility can play a part in the lives of those living within the environs of the Strand and Gordon's Bay this is far from the case for those living in Kayelitsha and Mitchells Plain.

Hedonic pricing is culturally sensitive, relying as it does upon traditions of ownership and exclusivity. Bojo et al (1992) allude to cultural heritages with regard to property ownership and transfers. It would be unsafe to assume that the disparate societies living in the study area have the same aspirations towards property ownership, let alone comparable environmental views.

The second technique, the Travel Cost Method (TCM) is based upon the assessment of the costs of getting to and from a site or area to provide a measure of the value of recreational facilities.

This method was utilised by Balance et al (undated) in order to assess the value of selected beaches in the Cape Metropolitan Area (CMA). This study which was based upon ten beaches in the CMA was undertaken to calculate the total value of beaches to the users of those beaches. However the method does not allow for opinions about

the attributes of beaches, in this instance cleanliness. This was achieved by asking specific questions about acceptable levels of litter.

Turner et al (1994) list a number of shortcomings of this method, such as the problem of accounting for multiple visit journeys, decisions to re-locate to or remain close to a recreational facility, and the value of travel time.

Different sectors of the community have differing levels of income and expenditure patterns. The amount of net disposable income varies. The rich can be expected to make more use of a distant recreational facility than the poor, because they can afford to do so. The gross of all visits may be said to be the value, or worth to the community at large who are travelling to the resource. However, what is missed is the worth to the adjacent community who do not need to spend money on travel, and the worth to those who live at a distance from the resource and who cannot afford to travel often. A travel cost survey of those who do visit the beach from the adjacent areas may be as much an inverse measure of poverty as a measure of value placed upon the resource.

The inherent shortcoming in both these revealed preference techniques is that they derive data only from those directly involved with or affected by the resource, and the data obtained is based upon the conditions pertaining at the time of the survey. These shortcomings are particularly pertinent to the area under study. The levels of wealth found in Khayelitsha and Mitchells Plain are low and the degree of social dysfunction are high when compared with Strand and Gordons Bay.

If these methods were to be used to place an intrinsic value on the beaches currently used by or associated with the poorer population then a value would be obtained below that found from a like resource used by the more wealthy. If there were to be a direct trade-off between the two then the resource used by the rich would be preserved in preference to that used by the poor.

Revealed preference methods appear to rely upon consistent economic and social norms. In an instance where there are dramatic socio-economic differences perhaps expressed preference methods would give more accurate and equitable answers.

Expressed Preference - Contingent Valuation Methods

Contingent Valuation Methods (CVM) are expressed preference methods that can extend values out of the realm of behaviour into the realms of opinion. Willis and Garrod (1993) suggest that these types of method are appropriate for the measurement of satisfaction of landscapes where option and existence values are being sought. By relying upon opinion rather than action it is possible to draw some conclusion about views of a resource, thus allowing for non-use value to be expressed.

These methods can be divided into two components, willingness to pay (WTP) and the willingness to accept (WTA). They rely upon the setting up of a fictional framework under which decisions are made by participants with regard to the use and existence of a resource. In the first instance -WTP, the generic question "what are you willing to pay for the retention of the resource" is asked. In the latter case -WTA, the generic question is "what compensation would you be satisfied with to accept the loss of the resource".

Willis and Garrod (1993) point out that in the context of landscapes the description of the landscape is subjective - quality laden. The means of describing the landscape (in this instance the beach) plays an important role if results are to be meaningful and consistent. Surveys or games can be carried out insitu, in which case there is already a bias insofar that in order to capture a complete response participants who do not normally go to the beach would have to be transported there and would perhaps find themselves in unfamiliar surroundings; or at a distance, in which case some form of unambiguous descriptive technique would have to be devised. Hanemann (1994) suggests that interviews should be carried out in circumstances where respondents can give considered and thoughtful answers.

In the instance under examination descriptions of the qualities of the open space are easy enough to manufacture. Impacted and pristine beach open spaces are available to see or be filmed and they are in familiar circumstances. Potential inaccuracies such as the weather at the time of the survey or game (or photographs) can be smoothed out.

(Morgan 1999). What cannot be removed however are the biases borne of knowledge, perception and aspiration.

Knowledge

There was a question posed in a recently proposed questionnaire that while directed specifically towards the use of a coastal road, has no doubt been asked before in other guises:-

> Are you aware of the fact that some of this area is infested with aliens?
>
> If yes, does this detract from your enjoyment?

The second conditional question raises an important point, and that is that there should perhaps be a further conditional question reading:-

> If no, now that you know that there is alien infestation on the area will this now and in the future detract from your enjoyment?

This brings to bear an argument that says that aside from any un-measurable spiritual value, there are values that are informed, however subconsciously, by knowledge. That knowledge could be that - because there are aliens present in an eco-system that system is likely to be not working in a natural, sustainable fashion; or the knowledge that - through the hardening of foreshores by construction of roads, buildings, and walls the natural systems of dunes and the services performed by dunes are radically altered. In other words a question could be asked about the quality of open space along a stretch of beach:-

> Is your enjoyment of the beach at Strand reduced by the roads and buildings that run along the high water mark?

All other things being equal, is it likely that the person who has knowledge about the natural protection provided by dune systems would be swayed in his opinion of the alterations wrought through development and as such subconsciously reduce enjoyment?

At a slight tangent - if the same question were to be asked of two sets of respondents one of which was knowledgeable of the bio-physical services lost through beach development and the other not and there were discernible and attributable differences in values obtained, would these constitute a value of ignorance against which expenditure on environmental education yardsticks could be set?

Perception and Aspiration

A complication in perception and aspiration arises from differing urban backgrounds and experiences. For the folk of Khayelitsha who live in cramped, dense housing in an urban fabric that is unpleasant and dangerous, the clean lines and sense of order offered by the sea facing facades of Strand could come as a welcome antidote to normal life. A place where shopping, relaxing, and recreation can be had in comparison to the tedium of life at home.

Contrast this to a contrary view from wealthier city dwellers who spend the bulk of their time living and working in an urban fabric that provides all amenities, but who come to the beach in order to experience total relief or removal from the urban fabric. The desire is more likely to be to experience an open space that is uncluttered with buildings that are an unwanted reminder of familiar urban spaces.

Under this same head falls specific cultural needs. An example is the ceremony surrounding the initiation of *Sangomas*[3], where a reflective period of some days is spent by the initiate at the waters edge communing with the ancestors. During this period lay people keep a respectful, not to say fearful, distance from the initiate, thus restricting use of the area for the duration of the Sangomas retreat. Contrast this Xhosa[4] requirement to a European one for unfettered access at all times. In this case if an equitable intrinsic value is to be found then both contrary values would have to be aggregated, but done so in the knowledge that they are actually diametrically opposed.

Another shortcoming, particularly in the case of disparate communities is the issue of gamesmanship.

[3] Traditional healers

Gaming

The question arises as to the extent to which participants will take the "game" seriously. Sagoff (1988) observed that information plays a key role in determining how people view environmental resources. It cannot be assumed that respondents in CV games are reacting purely within the rules. They are, he points out also capable of political decision making. In an area where there is huge pressure to provide housing to accommodate a burgeoning squatter population views about open space are likely to be affected by political considerations and the degree to which such games may eventually influence final planning outcomes. In a less destitute but more impacted environment different political considerations will apply.

Not only is gaming at a political level an issue, it is also affected by socio-economic factors.

Starting Point Bias

Turner et al (1994) suggest that the point at which the "bidding" or a range of choices starts will affect the result. This bias is relevant here where a start point of (say) R12 can be expected to illicit different average "bids" or WTP from a starting point of R120. Such a discrepancy could have major implications in the study area where there is a wide disparity in incomes and expenditure patterns. Starting point bias will be evident if the same question and the same starting point is put to a respondent from Khayelitsha where the per capita monthly income is low, as distinct from a respondent from Gordons Bay or Strand. Unless starting points are somehow pegged to average incomes in specific areas such differing levels of disposable income must skew results.

Within the concept of WTA there is a shortcoming that hinges, perhaps, upon imagination. The acceptance of a sum of money in order to forgo a good or a right is only part of the story. Money is after all only a proxy for satisfaction and is but a means to obtain that satisfaction. For a respondent to give a considered answer, R50, R150, or R200 compensation per month for the loss or reduced worth of, in this instance a beach, must be a measure of the trade off that she is willing to accept.

[4] Ethnic grouping within South Africa

Unless the desired alternative activity can be both visualised and *valued in its own right* the placing of an amount of R50, R150 or R200 will be to some extent arbitrary and not a fair reflection of WTA.

If the aforementioned method is to give workable values there is a substantial reliance upon culturally common definitions and knowledge. In the cases under study these cannot be relied upon. It is difficult to see how values from primary data can be weighted to give equitable results. The answer may lie in a far simpler, far less scientific, yet infinitely more complex method.

Aesthetic

Brady (1998) talks of the hedonistic model of aesthetic appreciation and suggests that the desire for pleasure is what motivates aesthetic appreciation. This is not the revealed hedonic behaviour that can be observed and measured in house purchases but stated appreciation of, in this case, the beach. However Brady suggests that there is a inherent error in that a pure hedonic measure fails to distinguish between aesthetic pleasure and pleasure connected to use. She goes on to introduce a disinterestedness model that is less rooted in the subjectivity of personal taste and removes appreciation from the category of amenity value. Personal preferences are moved to the background and the overall aesthetic response is evaluated irrespective of personal pleasure. Importantly she points out that aesthetic response need not be confined to pleasure; fear and respect for the unknown may also be equally valid responses.

It would seem that in the case of the two beaches an aesthetic approach could come closest to placing an intrinsic value to this open space element. What such an approach would do is to promote a freedom to express likes, dislikes, fears, pleasures, and cultural necessities that would not otherwise be described. It would allow aesthetic responses that would not be judgmental - would not be "ranked" or "marked". A belief in an aesthetic that values the pristine shore side can rest side-by-side with an aesthetic that recognises the spiritual connectivity between the dunes and the sea. None of these values are however evaluated in monetary terms, because the ultimate value of this type of open space is intrinsic and as such is beyond economic value.

Conclusion

In the context of Cape Town the beach is an important element. In some cases, such as Strandfontein, the beach and the hinterland has been left in a relatively pristine condition, however this has been as much by default as design. In other areas such as Strand development has encroached up to the high water mark or beyond. Ill considered development has prejudiced the ecosystem goods and services supplied by the beach.

The planning guidelines currently being used by the City of Cape Town (MSFD) puts great store on open spaces, particularly within the confines of the city, and draws attention to the importance of the urban edge. However the guideline is not explicit in the inclusion of the beach either as open space or as a largely immutable urban edge. The fear is that unless the beach is accorded a greater degree of value planning will not incorporated the values that the beach has to offer.

As long as the beach is regarded solely as a recreational resource its true worth will not be recognised. The total economic value has to be presented. While many economic values can be assigned to the beach with some degree of confidence intrinsic values are more difficult to calculate, and it is these values that lift the potential benefits of the beach out of the dangerous realms of mere monetary values.

There are difficulties in seeking values through Contingent Valuation methods where there are disparate socio-economic factors involved. Where data based upon the perceptions and aspirations of local people may well serve as a effective proxy for the value of intra-urban open spaces, the use of such techniques for the beach open space is open to question because that space is allied to a greater whole, that of the city. Data derived solely from active users or passive visitors will not capture the intrinsic values that may be assigned on a city-wide basis

It is submitted that given the disparities that are to be found, not only in the vicinity of the area in question, but also city wide, that before an intrinsic valuation of this open

space is attempted research into value types and aspirations should be undertaken. Where societal disparities exist the value exercise falls into the realm of social anthropology and should be an area of public discussion. Rather than having to cloak this type of open space in a pseudo-scientific mantle, reliance should be placed upon the aesthetic in its own right - and a consensus should be formed - for the good of all.

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